drel or plug member 118 and around the top portion thereof is a combination clamp and cut-off means 120 which is discussed in detail in my co-pending application aforementioned. The mold 116 is essentially frusto-conical in configuration, and comprises side walls 122, a short radial shoulder 126, a short skirt portion and a knock-out plug 130, the head of which is adapted, during the molding operation per se to be the bottom of the mold cavity. Of special not are the bleed ports 132 which are placed adjacent the bottom of the short skirt portion 128. It will be noted that there are no other bleed ports in the side walls 122.

In operation, the material 18 is clamped by the opposed clamping means 106–108, and the mold means 116 and mandrel means 114 are moved into telescoped relation, mechanically drawing the material down into the mold cavity. Thereafter, an air pressure differential is created so as to move the web from contact with portions of the mandrel member 118 to the mold side walls 122. At this time air is trapped between the shoulder 126 and the clamping edges of the mold lip 124 and the cut-off and clamp means 120 on the mold 118 so as to provide a resilient back pressure on the material adjacent the side walls 122 preventing the flattening out of the projecting web portions 58 and 60 of the material 18 during the molding operation. Since the pressure differentials across the web created in container molding operations of this kind are rather severe, without the shoulder edge 126 adjacent the skirt portion 128 and the clamping of the container around the periphery at the lip, the projecting portions 58 and 60 (and 86) would have a tendency to be crushed and thereby reduce the advantages of the premolding operation.

It will be noted that the material 18 is fed into the machine so that the projecting portions 58–60 (also true of projections 86 and 98) are those portions that engage the cavity side walls 122 in the molding operation. When molding a container with laminated material, it is not necessary to orientate the material if the web 30 is of the same thickness as the base portion of the material.

While I have shown and described certain embodiments of the invention in detail, it is with full awareness that many modifications thereof can occur and the scope of the invention, therefore, is to be construed only in the light of the prior art and the spirit of the appended claims.

The invention is claimed as follows:

1. The method of making containers from an extruded web of plastic material comprising feeding a web of heated sheet thermoplastic material of a first thickness to a forming roll in a manner to localize pressure at spaced points on said web to continuously mold a plurality of interconnected thin projections on one side only of said web to create a greater apparent thickness therein without decrease in width or length of the material, feeding the modified material to a molding machine, reheating the modified material, clamping the material, stretching the clamped material mechanically with a male plug and moving the stretched material into a female mold, creating a positive pressure on the plug side of the material and a resilient back pressure in at least a part of the mold to form a container in the molding machine, said stretching and forming in the molding machine causing only a proportionate decrement in the increased apparent thickness of the material without destruction of the plurality of interconnected thin projections.

2. The method of making containers from an extruded web of plastic material comprising feeding a web of heated sheet thermoplastic material of a first thickness to a forming roll having forming lugs projecting from the surface thereof on the order of .005 to .050 inch to continuously mold a plurality of thin projections on one side only of said web to create a greater apparent thickness therein without decrease in width or length of the material, feeding the modified material with the greater apparent thickness to a molding machine, reheating the modified material, stretching the material mechanically with a plug and subsequently creating a pressure differential in a manner to provide a resilient back pressure to form a container in the molding machine, said stretching in the molding machine causing only a proportionate decrement in the increased apparent thickness of the material without destruction of the plurality of thin projections to provide a light weight seamless container which is strong per unit weight.

3. The method of making containers from an extruded web of plastic material comprising feeding a web of heated sheet thermoplastic material of a first thickness to a forming roll having projections thereon on the order of .050 to .005 inch, said projections being spaced apart a distance less than the height thereof to continuously mold a plurality of interconnected thin projections on one side only of said web to create a greater apparent thickness therein without decrease in width or length of the material, laminating a second web to the projections to form a modified material, feeding the modified material to a molding machine, reheating the modified material, clamping the material, stretching the clamped material mechanically with a male plug and moving the stretched material into a female mold, creating a positive pressure on the plug side of the material and a resilient back pressure in at least a part of the mold to form a container in the molding machine, said stretching and forming in the molding machine causing only a proportionate decrement in the increased apparent thickness of the material without destruction of the plurality of interconnected thin projections.

4. The method of making containers from an extruded web of plastic material comprising feeding a web of heated sheet thermoplastic material of a first thickness to a forming roll in a manner to continuously localize pressure at spaced points on said web to thereby mold a plurality of thin projections on one side only of said web to provide a greater apparent thickness therein without decrease in width or length of the material, feeding the modified material to a molding machine, reheating the modified material, stretching the material mechanically with a plug and thereafter providing a pressure differential to form a container in the molding machine, said stretching in the molding machine by the pressure differential including a resilient back pressure causing only a proportionate decrement in the increased apparent thickness of the material without destruction of the plurality of thin projections.

5. The method set forth in claim 4 wherein the thin projections are interconnected to form a grid-like network.

6. The method set forth in claim 4 wherein the thin projections extend longitudinally in the direction of the moving web.

7. The method set forth in claim 4 wherein the thin projections are cylindrical in form.

8. The method set forth in claim 4 wherein a second web is laminated to the projections of the first web prior to the stretching thereof.

9. The method of making containers from an extruded web of plastic material comprising modifying a web of sheet thermoplastic material of a first thickness by forming a plurality of projecting portions integral with said web to provide a greater apparent thickness therein without decrease in width or length of the material, feeding the modified material to a molding machine and forming a container in the molding machine by stretching portions of the material away from the plane of the web against a resilient back pressure to thereby retain the increased apparent thickness of the material.

10. The method of making containers from an extruded web of plastic material comprising the steps of modifying a web of sheet thermoplastic material of a first thickness by forming a plurality of projecting portions integral with said web to provide a greater apparent thickness